Effect of Ration on Lipid Profiles in Beef

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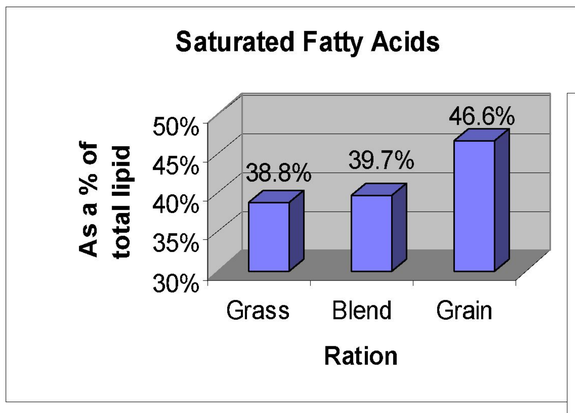
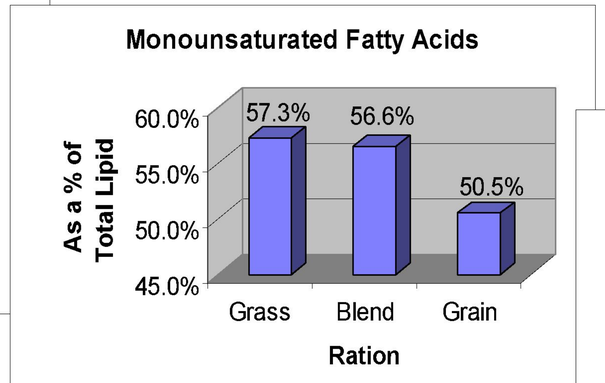
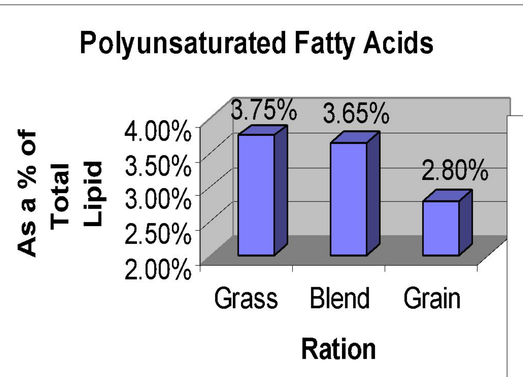
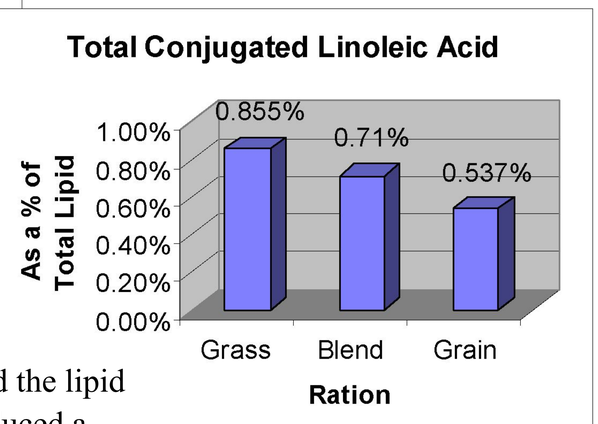
Introduction: Diet is known to affect carcass characteristics and meat quality. One of the primary factors that affect meat quality is the lipid composition, both flavor and tenderness of the final beef product is affected by the lipid content and profile. The objective of this study was to determine what changes occur in lipid profiles of cattle finished on grain, grass or a combination of grain and grass. Particular attention will be given to lipids with impacts on human health.

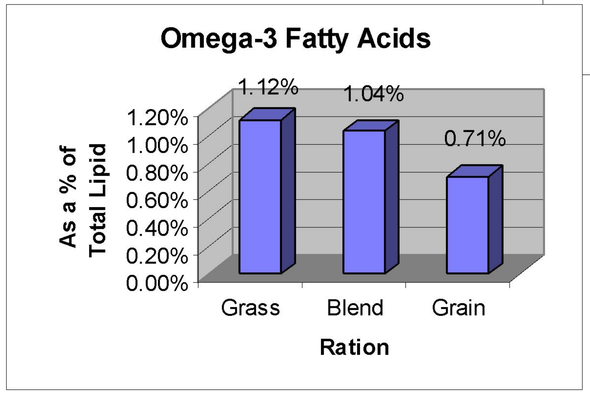
Methods: Thirty-six commercial steers were randomly allotted to 1 of 3 treatments. Cattle finished on grass (100%), grass(2/3's) and grain (1/3) or grain only diets. The grain potion of the ration was a rolled corn/oats/barley combination. Cattle were fed to 16-17 months of age, harvested, aged and vacuum packaged. Samples were collected from each treatment, extracted using a mdified version of the Stranton procedure (Stanton, et.al., 1997). Samples were then methylated and run through Gas Chromatography (GC). All data was analyzed by ANOVA as a % of total lipid.











Results: Diet significantly altered the lipid profiles within beef. Grass diets produced a product lower in overall SFA, higher in PUFA and a more desirable Omega 6 to 3 ratio. Grass-based rations increased CLA by 50% and Omega 3 FA by 40%.

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